CLAIMS

1. Process for recovering at least one polymer in solution in a solvent by precipitation by means of a non-solvent fluid, characterized in that the precipitation takes place in a precipitation medium comprising two dispersants of which one (dispersant (I)) has a greater affinity for the non-solvent and the other (dispersant (II)) has a greater affinity for the solvent.

2. Process according to Claim 1, characterized in that the polymer is PVC.

3. Process according to either of the preceding claims, whereby :

- the non-solvent is introduced gradually into the precipitation medium and, in the course of this introduction, there is first a phase separation (into a continuous phase rich in solvent, in which the polymer is dissolved, and into a disperse phase, consisting of droplets rich in non-solvent) and then there is a phase inversion (the continuous phase then becoming the phase rich in non-solvent, and the disperse phase becoming the phase rich in solvent containing the dissolved polymer)

- the non-solvent is initially introduced into the precipitation medium in liquid form only and in a quantity (Q') which is not zero but is less than the quantity (Q) required to bring about the phase inversion, and is subsequently introduced into the precipitation medium at least partly in vapour form.

4. Process according to any one of the preceding claims, characterized in that the dispersant (I) is primarily added to the precipitation medium before phase inversion.

5. Process according to the preceding claim, characterized in that the dispersant (II) is primarily added to the precipitation medium after phase inversion.

6. Process according to the preceding claim, characterized in that the entirety of the dispersant (I) and a minority weight fraction (less than 50%) of the dispersant (II) are introduced into the precipitation medium before the non-solvent is added and in that the remainder of the dispersant (II) is introduced

into the precipitation medium after phase inversion.

7. Process according to any one of the preceding claims, characterized in that the non-solvent is water and in that the dispersants are selected from cellulose ethers and polyvinyl alcohols.

8. Process according to the preceding claim, characterized in that the dispersants are polyvinyl alcohols having different degrees of hydrolysis, the dispersant (I) having a degree of hydrolysis (DH) greater than that of the dispersant (II).

9. Process according to the preceding claim, characterized in that the dispersant (I) has a DH of 65 % to 90 % and in that the dispersant (II) has a DH less than or equal to 60 %.

10. Process for recycling at least one article based on at least one polymer, whereby

a) if necessary, the article is shredded into fragments with an average size of 1 cm to 50 cm

b) the article or article fragments is or are contacted with a solvent able to dissolve the polymer

c) the polymer in solution is recovered using a process according to any one of the preceding claims.